

## **Response to Public Comment**

### **Hawaii's 2004 Clean Water Act (CWA) Section 303(d) List of Impaired Waters Hawaii State Department of Health (DOH)**

**June 16, 2004**

**General Observations - Process:** Each April 1st of even-numbered years a Clean Water Act (CWA) section 303(d) List of Impaired Waters (List) is due to EPA. The process of compiling and reviewing information for the 2004 List began on July 9, 2003, with the publication of both a "Call for Data" and a 30-day public comment period for the 2004 Draft Listing/Delisting Criteria. These criteria describe the process for adding or removing waters from the List, and includes the screening out of data that did not meet the written criteria. The draft List was published for public comment on February 29, 2004, with comments due March 30, 2004; six commenters sent in responses.

Lists are prepared at two-year intervals, and the latest list in the series represents an update of older information, but only to the extent that new listing/delisting decisions are based on verifiable data and consistent with the listing/delisting criteria. The List is always a work in progress.

Because comments can be addressed better if received earlier, we encourage interested parties to commence working with DOH on the List when the listing criteria and "Calls for Data" are published in July of odd-numbered years.

#### **General Response:**

Some comments challenged the underlying water quality standards (WQS) and the listing and de-listing criteria. Other comments challenged the total maximum daily load (TMDL) process and projects. While DOH addresses some of these comments and will bear them in mind when it approaches the next round of WQS review and as it proceeds with TMDLs, DOH is not now changing the WQS standards, listing/de-listing criteria, or TMDLs as part of the present actual listing of waters.

#### **Responses to Specific Comments:**

**Commenter 1:** Sean M. O'Keefe, Director, Environmental Affairs, Alexander & Baldwin, Inc., letter dated March 30, 2004.

**Comment 1.1** *"A significant number of these water bodies are listed based on very limited and, in some cases, unreliable data which may not be representative of actual water quality."*

**Response:** We describe our general approach below, and we will address specific listings of waters as they are identified later.

In general, DOH followed EPA legal and technical requirements in establishing DOH listing criteria, and the DOH assessments of specific waters conform to the DOH listing criteria. Of course, we would always prefer more data. We would appreciate learning what the commenter thinks would be a reliable number of samples and methods of sampling.

Several commenters expressed concern that the State's proposed listing methodology is arbitrary or inconsistent with regulatory requirements. Specifically, several comments challenged the use of:

- ❖ Utilizing visual assessments for listing purposes;
- ❖ Minimum sample sizes;
- ❖ Minimum percentage exceedance rates to determine impairment; and
- ❖ Quality assurance/quality control procedures to ensure that data are reliable and representative of receiving water conditions.

EPA assessment and listing guidance documents specifically recommend that states develop listing methodologies based on accepted scientific principles that result in defensible listing decisions (see EPA, 1997, EPA, 2001, EPA, 2002a and EPA, 2003). EPA endorses the use of rigorous QA/QC procedures, including definition of minimum sample sizes needed to assess waters, as part of state assessment methodologies (see EPA, 1997, EPA, 2002a and EPA, 2003).

With respect to minimum sample sizes, DOH had to balance the desire for statistical rigor in the assessment process (which would have entailed setting higher minimum sample sizes) with the requirement to assess waters for which limited data were available. Our data are limited, reliable, and representative of water quality conditions at the actual time and place of sampling. EPA also endorses the application of minimum percentage exceedance rates to determine whether water quality standards are exceeded for particular waters (see EPA, 1997, EPA, 2002a and EPA, 2003). Moreover, the state methodology is consistent with the recommendations of the National Research Council provided in its technical review of the CWA §303(d) listing process (see NRC, 2001).

As an historical matter, some waters were listed based solely on visual assessments as a result of the Hihiwai v. Whitman lawsuit. Since then, we have established listing/delisting criteria that are more detailed; the present Priority 1 criteria are now the criteria that apply to de-listing. Presently listed waters will not be de-listed until we obtain sufficient data meeting Priority 1 criteria.

Hawaii's assessment methodology is fully consistent with EPA's national assessment and listing guidance; therefore, we disagree that the methodology is arbitrary or inconsistent with legal requirements. DOH may not remove previously listed waterbodies from the 2004 list unless the state demonstrates good cause. [40 CFR 130.7(b)(6)(iv)] "Good cause" includes, but is not limited to, more recent or accurate data; more sophisticated water quality modeling; flaws in the original

analysis that led to the water being listed in the categories in §130.7(b)(5); or changes in conditions, e.g., new control equipment, or elimination of discharges. While we agree that the previous lists may have resulted in some questionable listings, we will continue to maintain the listing until data meeting Priority 1 criteria are available for making a new decision.

**Comment 1.2** *“In Hawaii, the objective of the process appears to be to include as many water bodies as possible on the 303(d) list, in many cases based on very limited data, rather than to prioritize efforts to address water bodies where there is sufficient data to document actual water quality problems. As a result, the list provides an inaccurate representation of the status of water quality in the State, giving the impression that there are widespread water quality problems even though there is very limited data to support this view.”*

**Response:** DOH’s objectives are to protect and improve water quality by complying with federal laws. DOH has only listed waters that, through application of the listing/delisting criteria (see Impaired Waters Report, Appendix A) and standard statistical methods of analysis, show exceedances of the State Water Quality Standards. This is the process by which exceedances of Hawaii’s standards have been defined by both the State and EPA; it conforms to the general requirements in CWA §303(d)(1)(A) and provides an organizational framework for assembling and analyzing numeric data and other information.

We would appreciate learning what the commenter thinks would be sufficient data to accurately represent actual water quality problems, and what the commenter believes these actual problems are. We will certainly review any proposal for new listing/delisting criteria, and will start the next formal review of the criteria in the summer of 2005.

**Comment 1.3** *“The potential ramifications of the perception of poor water quality to the State’s economic interests (e.g., tourism), not to mention the enormous costs of developing and implementing TMDL’s for listed water bodies that may not actually be impaired, ought to be carefully considered in the development of listing criteria and in the allocation of resources towards future water quality monitoring.”*

**Response:** We agree that the list should address impaired waters, and not unimpaired waters. We understand the commenter’s concern with the implications of the listing of waters. Practical considerations are appropriate at certain points; for example, they are inherent in the definition of best management practices for addressing nonpoint source pollution. However, DOH disagrees that the potential effects on economic interests from listing water bodies or from TMDL implementation costs should influence the development of listing criteria or their application to actual listings; we do not see such factors in applicable federal law, regulation, or guidance. The data should speak for themselves as to whether WQS are being attained; the application of the listing criteria is a technical exercise.

We will begin developing a timeline for the 2006 303(d) list after the 2004 list is approved by EPA. We will revisit this comment at that time, and invite the commenter to continue the discussion with us then. We prefer to maintain consistent criteria so that data are comparable over time, and are currently applying our existing monitoring protocols to collect more data for use in the 2006 listing process.

**Comment 1.4** *“More than half of the streams currently included on the 303(d) list are listed based solely on “visual assessments” of water quality with little or no actual water quality data available to support those listings. ... A&B strongly urges a review of past listing decisions based on visual assessments and delisting of streams for which listing is not supported by other, more reliable water quality data.”*

**Response:** DOH **must** maintain any previously listed waterbody until enough data are obtained to apply the appropriate criteria for decision-making. While waterbodies may be listed by application of the listing criteria for priority 1 and 2, to be delisted, data must satisfy priority 1 criteria requirements.

Review of past listing decisions based on visual assessments is underway, as we collect more data for these streams. No streams were added to this year’s list based solely on visual assessments.

**Comment 1.5** *“The State is already in the process of developing TMDLs for nine streams that are listed based on visual assessments only, and an additional four streams for which only very limited actual water quality monitoring data is available.”*

**Response:** Yes, we are preparing some TMDLs for streams initially identified as impaired under *Hihikai vs Whitman*. There is very limited actual water quality monitoring data available for streams in general, statewide. TMDL development priorities link listed streams with listed receiving waters (where more numeric data are available), in an effort to address marine watershed quality problems through our watershed-based approach to water quality management.

We use a "weight-of-evidence" approach to listing/delisting streams. Conclusions are often more robust when supported by a number of different lines of evidence, rather than by a single set of measurements of one type of parameter, such as water column chemistry (the "weight-of-evidence" approach may be used as long as water quality data conforming to the Listing/Delisting Criteria are also available). Also, see response 1.4.

**Comment 1.6** *“A&B strongly objects to the continued use of the Hawaii Stream Bioassessment Protocol (HSBP) by DOH-EPO for the assessment of water quality in streams and in the development of “habitat and biotic criteria TMDL’s” for streams already listed as impaired. A&B strongly urges that DOH discontinue the use of HSBP for evaluating compliance with the WQS and for development of TMDL’s.”*

**Response:** The use of HSBP did not result in any listing of streams this year.

We use a weight-of-evidence in listing/delisting decisions, and the HSBP is only one line of evidence. Bioassessments are a tool to help measure habitat/biological conditions and serve three functions: 1) screening or initial assessment of conditions, 2) characterization of impairment and diagnosis, and 3) trend monitoring to document improvements or further degradation over time (see EPA 2002b). Use of bioassessments in a "weight-of-evidence" decision-making process is discussed in our response to Comment 1.5.

As to the merits of the HSBP specifically, Federal law allows the use of bioassessments for many CWA purposes, Aquatic Life Use Attainment (CWA section 305(b)), Nonpoint Source Pollution Management (CWA section 319), TMDLs (CWA section 303(d)), and NPDES permits (CWA section 402). Please note that the CWA states a national objective "to restore and maintain the chemical, physical and biological integrity of the Nation's waters" (emphasis added; see CWA section 101(a)).

The Hawaii Stream Bioassessment Protocol is the only written manual for assessment that contains a complete set of field procedures applicable to Hawaii's unique stream ecology. The only other available field protocol for stream assessments is the one developed by USGS for its NAQWA studies in Hawaii, which focused primarily on the composition of stream sediments, water and fish at sites along Manoa, Waieale and Waihee Streams, and on groundwater quality at a number of sites on Oahu.

We combine water quality data with measurement of habitat and aquatic community parameters as part of our screening process for streams with respect to pollution sources. We are carrying out a technical ranking exercise, not a detailed study of each stream, which would provide ancillary information for our uses but not replace the ranking process for TMDL and project implementation use.

DOH uses the HSBP to evaluate the attainment of designated and existing aquatic life uses protected by the Clean Water Act and the WQS, and to provide additional data on designated aquatic life uses to assist the TMDL process.

Currently, DOH uses a scoring system for the narrative criteria in H.A.R. section 11-54-04(a), which is applicable to all narrative descriptions obtained from fieldwork. The process by which we evaluate new protocols is - review the methodology and its effectiveness in answering relevant questions; review the accompanying QA/QC plan; then apply the protocol and evaluate results against the narrative Water Quality Standards (WQS) criteria. If the protocol is to be applied by DOH staff, we incorporate it into the DOH Quality Management Plan, which is approved by EPA. Please refer to the flow chart on page 10 of the List Report for details of the decision-making process for listing/delisting using narrative criteria.

The "level of scientific validity" is established for DOH by the use of carefully described methodologies and QA/QC procedures. Because science proceeds in a point-counterpoint manner, controversy over methodologies will always exist.

Although there is argument over whether a metrics-based approach is appropriate for Hawaii's streams, we have not been able to adequately evaluate other approaches because of a lack of field manuals and QA/QC plans. In other words, we have too little information to evaluate data quality and relevance of these other approaches to DOH water quality management needs. We are able to use the HSBP for water pollution/land use impact evaluations; these elements are missing from other approaches applied to the State's streams. The HSBP meets our program needs of determining whether a waterbody is meeting the designated or existing uses as defined, while other protocols meet the needs of other programs, but differences of opinion regarding the general applicability of any particular protocol are not sufficient to invalidate a methodology for specific uses.

**Comment 1.7** *“A&B has serious concerns regarding listing criteria for waters under Listing Priority 2 which allows the use of data collected during the wet season to be used to show noncompliance with dry season water quality standards, and which allows listing of streams based on limited data which do not actually exceed any water quality standards.”*

**Response:** Table 1a from the 2004 303(d) List reflects how data were interpreted. No stream was listed for a dry season exceedance unless the samples were also considered separately in regard to season. To be listed using Priority 2a criteria for the more stringent dry season exceedance, the majority of the data from the **dry** season must show exceedance of that standard. The criteria were applied via a tiered approach. Priority 2 data infers that there were 10 samples or less (or missing pictures or assessment). The geomean of the data set was compared to both the wet standard and the dry standard. If any standard was exceeded, then the data were sorted to determine if the majority of the samples for that season exceeded the corresponding standard. Alternatively, for the Priority 2b criteria, if there were 5 to 9 samples from a season, the data was compared to the corresponding seasonal standard to see if the geomean exceeded the standard by a factor of two. In both priority 2a and 2b cases, for the waterbody to be listed for the dry season, only the samples representing the dry season were directly compared to the corresponding standard.

**Comment 1.8** *“A&B suggests that all water quality data used to make listing decisions should be reviewed within the proper context (e.g., recent rainfall, stream flow, siting of sample locations) to ensure that misleading or anomalous data are discarded, and that valid data are compared to the appropriate standards.”*

**Response:** DOH concurs with the suggestion that that all water quality data used to make listing decisions should be reviewed within the proper context. Please note that if flow is well-mixed at points of sample collection that are immediately adjacent to a direct pollutant input, the sample is deemed representative of stream water quality at that point on the stream and further downstream, at that point in time.

The results of this data compilation are for the explicit use of this report. However, data are not evaluated and discarded because of a subjective interpretation in regard

to storm or rainfall events, or alien species invasions. The sampling dates for the Clean Water Branch are random events, scheduled far in advance. No conscious effort was made to collect samples during rain events, however, if a sampling site was dry during the scheduled attempt, another random attempt was scheduled. The 2% and 10% standards were not used for this report because no data set was large enough to analyze and compare to these standards.

The data gathered for this report were not an end in themselves, but are part of a continual process for a time-series type of evaluation, which is implicit in the biennial List submittal requirement.. The sample collection process will target the waterbodies with limited or questionable data (as defined by DOH criteria) for additional sampling in the future.

The responses below address specific A&B comments about streams that have been listed or are proposed for listing based in part on limited data collected during large storm events, for intermittent streams that flow *only* during large storms, and based on water quality data collected immediately adjacent to a direct pollutant input.

**Comment 1.9** *“A&B believes strongly that a review and revision of the State WQS for turbidity is necessary in order to prevent the continued listing of streams for turbidity levels that exceed the current standard but are in fact not indicative of actual water quality impairment.”*

**Response:** This listing report evaluates only existing data against the standards. The issue of a proper WQS for turbidity should be considered during the next rule review cycle.

**Comment 1.10** *“DOH-EPO should be required to carefully consider and respond, on point, to all comments received, including making changes to the proposed list where warranted, before the document is submitted to EPA.”*

**Response:** DOH is so required and is doing so. Responses are being sent out prior to submitting the document to EPA. Many of the comments raise water quality standards and 303(d) listing criteria issues that cannot be resolved within the narrow confines of existing standards and criteria that govern our completion of the 2004 303(d) listing requirements. At this stage, our responses focus on comments that point to specific proposed listings of waterbody/pollutant combinations.

**Comment 1.11** *“... A&B does not believe that water quality data collected for Waipio Stream on Maui supports the proposed listing, or that data for Maliko Gulch on Maui supports the existing listing. A&B recommends that both of these streams be excluded from the list until sufficient, reliable water quality data has been collected to support a finding of impairment.”*

**Response:** The data for the two streams met listing Priority 2b criteria. Waipio Stream showed that limited data from 5 samples exceeded the turbidity standard by a

factor of 2 during the wet season, with the majority of samples above the factor of 2 level. This listing falls within the Priority 2b criteria. Maliko Stream was previously listed on the 2002 list. Maliko showed that limited data from 6 samples exceeded the turbidity standard by a factor of 2 during the wet season, with the half of samples above the factor of two level. They will remain on the list until more data are collected for decision-making under the Priority 1 Listing Criteria.

**Comment 1.12** *“According to Table 5 of the draft report, 36 streams are listed based on visual assessments only. In all of these cases, there is insufficient numerical water quality data to support the listing, and in several cases numerical water quality data contradicts the listing and/or subsequent visual assessments conflict with the earlier assessments that formed the basis for listing. A&B strongly believes, as apparently does DOH-EPO, that photographs of visual assessments do not provide a reliable basis for listing streams as impaired.*

- *Priority 1 or 2a numerical data for six streams, as presented in Table 1a, shows no exceedances of water quality standards, contradicting the listing decisions for these streams.*

**Response:** Some streams are listed based solely on visual assessments prepared before the year 2000. De-listing from the present List requires data meeting Priority 1 criteria before a new listing decision can be made, as is explained in response 1.4. Some streams that were partially delisted are described below.

In general, the Tables 1a and 1b are a compilation of many sets of information. Each block represents what standard and which data were compared. The asterisks show which data were applied - combined data from both seasons, only dry, only wet, or wet and dry separately are represented. If a waterbody had enough data (i.e. >10 samples) to compare to a standard, then the appropriate symbol shows. Some streams met WQS for one season but the initial listing parameter (i.e. visual turbidity) will keep it listed for the other season until enough data are accumulated to either confirm or provide the basis for a de-listing decision under Priority 1 criteria.

Specifically, Table 1a analyzes Clean Water Branch data and is not the final list. Not all streams in Table 1a are on the List in Table 5. This table shows the data available for comparison to the decision-making criteria.

- *Five streams are listed based on Priority 1 or 2a “combined data”, while an additional 12 streams are listed based on Priority 2b data (three of these are also listed based on “combined data”, indicating that less than five samples were obtained during each season). Data sets of this size can be highly skewed by a single large storm event and are not necessarily representative of water quality in the stream.*

**Response:** Please refer to response to Comment 1.7.

- *Three streams (Kalauao, Uhelekawawa, and Waimea) were apparently listed based on Priority 3 data (i.e., five samples or less), as they are not listed in either Table 1a or Table 1b of the report.*

**Response:** Kalauao Stream was accidentally omitted from Table 1b. It has been added. Uhelekawawa and Waimea Streams are listed by visual assessments on the 2002 list. These streams will remain listed until numerical data show WQS attainment. Please see response to Comment 1.4.

- *Eight streams listed as impaired are intermittent streams, meaning that their lower reaches are normally dry except during large storm events. Seven of these streams are listed for turbidity based on visual assessments only, and the remainder is listed for turbidity based on very limited numerical data. If these assessments reflect periods when there was flow in these streams, it is likely that they occurred during or shortly after storm events when higher than normal turbidity would be expected and is allowed by the WQS.”*

**Response:** Please see response to Comments 1.4 and 1.8. HAR 11-54-5.2 (b) makes no distinction between perennial and intermittent flow in the standards for inland waters. DOH utilizes sampling data as they become available.

**Comment 1.13** *“Whether by design or not, the listing process in Hawaii appears to be aimed at obtaining very limited amounts of data for as many streams as possible, thereby justifying their listing as impaired based on overly lenient listing criteria, rather than to prioritizing efforts to address water bodies where there is sufficient data to document actual water quality problems. This approach has led to a significant number of water bodies being listed as impaired with very little evidence to support the listing.”*

**Response:** Please see the responses to comments 1.1, 1.2, and 1.4. We would welcome the commenter’s thoughts on what would be adequate evidence.

**Comment 1.14** *“...it is imperative that listing decisions be well supported by reliable water quality data that clearly demonstrates impairment. Yet DOH-EPO is already in the process of developing TMDLs for nine streams listed as impaired solely based on visual assessments and several others that are listed based on extremely limited numerical data.”*

**Response:** Please see response to Comments 1.1, 1.2, 1.4, and 1.5.

**Comment 1.15** *“The objective of compiling the 303(d) list ought to be to identify water bodies that are not meeting water quality standards so that limited resources can be directed towards identifying causes of impairment and, where feasible, implementing actions to improve water quality. While continuing to expand the 303(d) list based on limited data will likely attract additional funding to the process by raising the perception of widespread water quality problems, in our view neither the current list nor the*

*proposed list provides an accurate representation of true water quality in the State. Instead, the list has become a compilation of waters for which at least a suspicion of impairment can be minimally supported and for which enormous resources are being expended, and potentially wasted, on TMDL development.”*

**Response:** DOH is not increasing the list in order to increase its jurisdiction or seek new resources. DOH maintains that the listing criteria are a method for evaluating as much data as possible, while gaining a reasonable understanding of the true status of the waters. The process only compares readily available data to the standards, and proceeds with a decision-making matrix. The List Report has no qualifying statements on how resources should be allocated, but does indicate whether TMDLs for each waterbody are high, medium or low priority for TMDL development. The order of priority for TMDL development may be amended when new Lists are published for comment or upon further review.

Also note that there is a developing consensus that restoring waterbodies with only minor impairments and writing a waterbody management plan is faster and cheaper than tackling only the waters with the highest pollutant loads and most damaged habitats, a project choice which is indeed expensive and slow. Depending on the location and nature of the problems, DOH will be targeting both types of waterbodies for assessment, possible listing, and TMDL preparation.

**Comment 1.16** *“It is important to note that the criteria for delisting water bodies are considerably more stringent than are the criteria for listing. Although water bodies can be listed based on visual assessments alone or on as few as five water quality samples, waters may not be delisted until “data show that the water quality standards are attained and the appropriate sample sizes or other information required under Listing Priority 1 are available” (per the 2004 Listing and Delisting Criteria).”*

**Response:** DOH recognizes that the present criteria for delisting decisions are more stringent (Priority 1) than criteria for listing (Priorities 1 or 2.). In the recent past, the tendency has been to be conservative in using the listing decision-making process to allow for waterbodies that were “likely to exceed WQS in the future.” The data set needed to delist needs to be convincingly and legally strong enough to warrant a delisting decision. Also, see responses 1.1, 1.2, and 1.4.

**Comment 1.17** *“A&B strongly recommends adoption of a more focused approach to the TMDL program, particularly the listing process, with the objective of collecting adequate data to clearly identify and address real water quality problems in the state.*

*While A&B recognizes the potential value of visual assessments in evaluating whether narrative water quality standards are being met, we do not believe that the assessments reviewed by EPA following Hihiwai provide a reliable basis for listing decisions for the following reasons:*

- *In many cases, the pre-1998 visual assessments do not meet the present-day listing criteria approved by EPA.*

- *Visual assessments of two streams (Hakalau and Kaieie) conducted in 2002 “severely contradict” results of the visual assessments upon which their 1998 listing was based. Similarly, a 2003 visual assessment of Hanalei Stream concluded that water quality was high, contradicting the visual assessment that led to the 1998 listing for turbidity.*
- *As noted previously, there are several examples of streams for which numerical water quality data collected subsequent to the 1998 “visual assessment listing” does not support the listing.”*

**Response:** Please see responses to Comments 1.1, 1.2, & 1.4. According to Priority 1 criteria, DOH will need numeric data to delist

We would like to learn the commenter’s proposals for a more focused approach, definitions for adequate data, and a description of real water quality problems in the state.

**Comment 1.18** *“Visual assessments fail to account for the provisions of HAR Section 11-54-4(c), which provides that the narrative standard relating to “soil particles resulting from erosion on land” (typically a major contributor to observed turbidity) is deemed met when the land on which the erosion is occurring is being managed in accordance with soil conservation practices or when the discharge is receiving the best degree of treatment or control.”*

**Response:** Soil particles are measured by the parameter of total suspended solids (TSS) and depth of sediment on the bottom and not necessarily by turbidity. No stream is listed for “soil particles resulting from erosion on land” as part of the narrative criteria. A visual assessment could determine if an exceedance exists by incorporating HAR 11-54-5.2 (b) (2) – Bottom criteria for streams, in the monitoring protocol. The current turbidity parameter can also reflect high nutrient loading and a subsequent algal bloom, and organic particulate matter with no potential erosion issues involved.

Specifically, the data do not reflect whether BMPs are being appropriately applied within the watershed. The data just provide a snapshot of the condition of the water at that site, at that moment in time. DOH welcomes and appreciates any assistance A&B can provide in locating and mapping land managed in accordance with soil conservation practices and discharges receiving the best degree of treatment. The USDA NRCS, a primary repository of this information, is not providing this information on a waterbody-by-waterbody basis and does not routinely make the files of program participants available for third-party synthesis. Again, once a waterbody is listed, DOH will not delist until the body is shown to be in attainment of WQS under the then current listing criteria.

**Comment 1.19** *“Per the “2004 Listing and Delisting Criteria for Hawaii Surface Waters Compiled Under Clean Water Act Section 303(d)” (October 2003), previously listed waters can be delisted if good cause is demonstrated based on the availability of newer and/or more accurate water quality data or discovery of past analytical flaws.*

*A&B believes that these criteria are met for those waters listed in 1998 based on visual assessments only, and strongly urges delisting of streams for which listing is not supported by other, more reliable water quality data. Failure to do so will result in the expenditure of enormous resources in developing and implementing TMDL's for water bodies that may not actually be impaired."*

**Response:** Please see responses to Comments 1.1, 1.2, 1.4 and 1.16.

**Comment 1.20** *"To date, DOH has consistently incorporated "habitat and biotic TMDL's", based on the HSBP, into its TMDLs. A&B questions the motivation behind this use of HSBP, as it would appear use of this "artificial TMDL" could impede delisting of water bodies even after they meet all water quality standards for which they were listed...A&B therefore strongly urges that DOH discontinue the use of HSBP for evaluating compliance with the WQS and especially for development of TMDL's."*

**Response:** Habitat and biotic TMDLs are neither required nor approved by EPA, and state or federal law does not mandate the implementation of TMDLs. The TMDL process provides a technically- based planning framework for polluted runoff control and NPDES permitting, and the EPO has made the HSBP one component of this framework for inclusion in TMDL reports for comparative purposes only with chemical and physical water quality data. DOH will also continue using the HSBP to evaluate the attainment of designated uses protected by the Clean Water Act and the WQS and to assist the TMDL process. The use of the HSBP assists the TMDL process by establishing baselines for habitat quality and biological integrity at water quality monitoring stations, and identifies areas that may benefit from pollutant load reductions, water quality improvements, and restoration of stream habitat and biological integrity. Please see our response to Comment 1.6.

**Comment 1.21** *"Where biological impairment is determined to be caused by pollution but not by pollutants (including impairment caused by man-made alterations to the stream or riparian areas), a TMDL is not required (nor could one be prepared, since a TMDL is, by definition, water body and pollutant specific)."*

**Response:** We agree that there is a distinction between "pollution" and "pollutants." To clarify these terms - "pollution" refers to water, habitat and/or biotic community degradation caused by **human** alterations such as diversions for irrigation and drinking water uses, channel alterations for flood control, etc. See HRS secs. 342D-1 & 342E-1.

"Pollutants" are material substances such as pesticides, fertilizers, etc that are manageable by humans and are often carried into adjacent waterbodies in polluted runoff. Non-material substances such as temperature and pH are properties of the water column, but are also considered "pollutants" because they are easily altered by destruction of riparian areas, channelization of streams, and other human activities.

When impairment is determined to be caused by pollutants, we seek to identify the pollutants responsible and develop the appropriate TMDLs.

**Comment 1.21a** *“The development of “TMDLs” for habitat impairment, particularly when based on a flawed metric, goes well beyond the scope of the TMDL program, and may well interfere with the authority of other agencies with regard to water use allocations.”*

**Response:** DOH understands that water allocations are within the jurisdiction of the Commission on Water Resources Management (COWRM).

**Comment 1.22** *“A&B believes that certain listing criteria outlined in the “2004 Listing and Delisting Criteria for Hawaii Surface Waters” are unreasonably lax, allowing the listing of water bodies that do not actually exceed any water quality standards.”*

**Response:** This comment is outside the scope of this report. The listing criteria were the subject of public notification for comment in July 2003. We will begin developing listing criteria and monitoring targets for the 2006 303(d) list after the 2004 list is approved by EPA, and will revisit your comment at that time.

**Comment 1.23** *“...DOH needs to carefully consider conditions in the stream at the time of sampling to determine whether or how a particular set of data should be considered in making listing decisions. Specific examples include:*

- *Several streams are listed as impaired based on elevated turbidity (in most cases based solely on visual assessments) even though they are intermittent streams that flow only during large storms when the normal water quality criteria are not intended to apply. These streams include Honokowai, Kahana, Kahoma, Maliko, and Ukumehame Streams on Maui and Aiea, Kaupuni, and Waiawa Streams on Oahu (basis: Hawaii Stream Assessment and personal observations).*
- *Maliko Gulch was listed as impaired for turbidity in 2002 based on a very limited data set comprised of seven samples taken during the wet season. Although the geometric mean of these seven samples exceeds the “not to exceed” standard, the samples were taken from two sample locations (Maliko Upper and Maliko Lower) within the stream during four sampling events; that is, the data represents stream conditions on four different occasions, not seven. On this basis, Maliko Gulch does not meet the criteria for listing under Listing Criteria 2 and should not have been listed.*
- *Waipio Stream on Maui ...Data from this location, while convenient to collect, should not be used to assess impairment of Waipio Stream, and the stream should not proposed for listing on the basis of this data.”*

**Response:** Please see response to Comment 1.4. All data were reviewed and the decision-making process followed as prescribed by the listing/delisting criteria. Best professional judgment (BPJ) is utilized for evaluating the extreme of multiple sample values from the same day, but application of BPJ is not usually needed. If specific questions remain regarding sample site locations, please send comments about

questionable sites and we will review and modify accordingly. Also, please see responses below for particular streams.

**Comment 1.24** *“As described above, A&B has closely examined monitoring data associated with several streams proposed for inclusion on the 2004 303(d) list and strongly believes that there are valid reasons to consider not listing these streams. We strongly encourage DOH-EPO to undertake such an evaluation prior to finalizing its 2004 listing decisions.”*

**Response:** DOH is very interested in properly locating the two (minimum) required sampling sites. If A&B has information regarding specific sites, please contact us and we will be happy to evaluate your findings. However, we will not delist streams until data show that no exceedance of WQS have occurred.

**Comment 1.25** *“The current “geometric mean” water quality standard for turbidity (2.0 NTU dry season/5.0 NTU wet season), which applies to all streams in the state, is as strict or stricter than the turbidity standard for drinking water and does not consider the normal background turbidity present in streams, particularly during storm events, irrespective of any inputs from human sources.”*

**Response:** This comment is correct, but despite the superficial resemblance of the Drinking Water standards and the environmental Water Quality Standards, they are based on entirely different ecological requirements. The WQS are ecologically based on data gathered before 1977, which would reflect normal background levels at relatively undisturbed sites. The 2% - 10% levels are the more appropriate criteria to apply during storm events. Ecologically speaking, turbidity at drinking water standards can have a distinctly negative effect on limiting the primary productivity of the ecosystem, thereby directly impacting the food source of native fishes. However, the WQS themselves are outside the scope of this report. The WQS revision process takes place every 3 years, and we will begin reviewing the standards again, provided adequate statewide data are available, as soon as the recent public hearing process is completed.

**Comment 1.26** *“A&B believes strongly that a review and revision of the State’s numerical standard for turbidity should be undertaken in order to prevent the continued listing of streams for turbidity levels that exceed the current standard but are in fact not indicative of actual water quality impairment.”*

**Response:** Please see the response to Comment 1.25.

**Comment 1.27** *“In addition to the foregoing comments, A&B suggests the following specific revisions to the States 2004 List of Impaired Waters:*

- *Waipio Stream (Maui) should not be listed as impaired for turbidity, based on a poorly sited sampling location and unrepresentative data.*

**Response:** Please see above response to Comments 1.8, 1.18 and 1.24, regarding sampling sites.

- *Maliko Gulch (Maui) should be delisted, based on the limited data used in the delisting decision.*

**Response:** Maliko data **was** screened against the listing criteria, and a decision made to retain it on the List in Priority Category 2b. No new data have been collected for this site during the past two years.

- *All streams currently listed as impaired based solely on visual assessments completed prior to the 1998 listing decisions should be delisted, based on deficiencies in the data supporting the original listing and/or on new data that contradicts the original listing decision.*

**Response:** Use of the latest listing/delisting criteria means that streams listed by visual assessment will remain until numeric data show attainment of the WQS. These streams will only be delisted based on new numeric data that contradicts the original listing decision. We encourage A&B to assist this process by collecting and submitting data that meet our criteria for these listing decisions.

- *All streams currently listed as impaired for based on evaluation of combined (wet and dry season) turbidity data should be reevaluated to determine whether wet season data supports listing for wet season turbidity and dry season data supports listing for dry season turbidity. Streams for which listing is thereby not supported should be delisted until adequate data is collected to substantiate a finding of impairment.*

**Response:** The criteria for these listings have already been established and were followed for the 2004 listing. We will reconsider this comment in preparing the 2006 list. We will start the formal review of the listing/delisting criteria in the summer of 2005.

- *If not delisted in entirety, the listing of Hakalau Stream (Hawaii) for turbidity should be deleted, since the 1998 visual assessment on which this listing is based is contradicted by a 2002 assessment.*

**Response:** Visual assessment will remain until numeric data show attainment of the WQS. These streams will only be delisted based on new numeric data that contradicts the original listing decision. We encourage A&B to assist this process by collecting and submitting data that meet our criteria for these listing decisions.

- *The listing for Honolii Stream (Hawaii) indicates that the stream is listed for turbidity (dry) based on a numeric assessment. In reality, available numeric data for this stream shows no exceedance of the standard.*

**Response:** You are correct. Table 5 should maintain the visual basis listing for Turbidity based on the dry season. The 8-sample data set for the dry season is not quite 2 times the standard. The listing of visual turbidity will remain until the data set reaches the 10 sample minimum. Visual assessment will remain until numeric data show attainment of the WQS. This stream will be delisted when the geomean of a total of 10 random dry season numeric data points are shown to attain the dry season turbidity standard.

- *The listing of Kaieie Stream (Hawaii) for nutrients should be deleted, since the 1998 visual assessment on which this listing is based is contradicted by a 2002 assessment.*

**Response:** Visual assessments will remain on the List until numeric data show attainment of the WQS. These streams will only be delisted based on new numeric data that contradicts the original listing decision. We encourage A&B to assist this process by collecting and submitting data that meet our criteria for these listing decisions.

- *If not delisted, the listing for Wailoa/Waipio Stream (Hawaii) should be corrected to reflect data presented in Table 1a (i.e., exceedance of the wet season, not dry season, nitrate/nitrite standard).*

**Response:** The commenter is correct. The Table 1b listing will be corrected to reflect the dry season nitrate/nitrite exceedance of the standard by a factor of 2 based on 6 samples, of which, all exceed the standard by a factor of 2.

- *If not delisted, the listing for Waihee Stream (Maui) should be corrected to reflect data presented in Table 1a and 1b (i.e., there is no numerical data cited supporting listing of this stream for turbidity)."*

**Response:** The commenter is correct. Waihee Stream – Maui does not satisfy the priority 2b criteria to warrant listing for turbidity, however the visual listing for nutrients will remain.

**Commenter 2:** Janet Ashman, Environmental Specialist, Hawaii Agriculture Research Center, letter dated March 30, 2004.

**Comment 2.1** *"Is the public comment process merely a formality? Since the deadline for submission of public comments to DOH-EPO on the proposed 303(d) list is March 30, 2004 and the State's deadline to submit its list to EPA is the next day, April 1, 2004, HARC wonders how public comments can be meaningfully considered and acted upon by DOH prior to the EPA deadline. HARC would also like to receive responsive comments addressing its long-standing concerns."*

**Response:** No, we have considered all comments carefully. Please see response to Comment 1.10.

**Comment 2.2** *“The use of limited and unreliable data. According to the list provided for public comment, more than half of the streams currently included on the 303(d) list are listed based solely on “visual assessments” of water quality with little or no actual water quality data available to support those listings. The use of third party review of photographs to assess water quality is scientifically unsound and unacceptable in these determinations. DOH itself is distrustful of this method of assessment and states that it will not use it for future listings. However in the meantime, the State is in the process of developing TMDLs for nine streams that are listed based on visual assessments only, and an additional four streams for which only very limited actual water quality monitoring data is available. In addition it appears that DOH is not following its own criteria for listing although it is difficult to determine from the limited information supplied in the document.”*

**Response:** Please see our response to Comments 1.1 and 1.4. "Actual water quality data " can include visual assessments as a component of a broader method of information gathering (please see response to Comments 1.6, 1.13, 1.14, 1.15, and 1.20).

We would appreciate learning what the commenter thinks would be sufficient data to accurately represent actual water quality problems in Hawaii, and what these problems are. We will certainly review any proposal for new listing/delisting criteria. We will start formal review of the criteria in the summer of 2005.

**Comment 2.3** *“State water quality standards cannot be met even under natural conditions. As an example, natural levels of turbidity regularly exceed our state standards. Other states account for their background levels in their standards. Ours seem to be closely related to our drinking water standards. Is there adequate justification for setting our standards so impossibly high? What are we trying to accomplish with this goal? Can we realistically lower turbidity even in our streams stemming from highly erodible, steeply sloped areas?”*

**Response:** Please see response to Comment 1.9, 1.25 and 5.3.

"Natural levels of turbidity" are often not measurable in upper watersheds damaged by pigs, deer, and goats, and by invasive plants and insects. For many reasons, upper watersheds may not be in their 'natural condition.'

The TMDL process establishes loads on a case-by-case-basis for upper watersheds, and uses those estimated loads as background for the watershed, with the caveat that BMPs, such as fencing and replanting, need to be planned and implemented for forested areas as well as for developed areas. Implementation examples include the many Watershed Partnership projects that have been initiated by public and private entities across the state. This type of effort is likely to improve downstream water quality in degraded streams at middle and lower elevations.

**Comment 2.4** *“Scientifically questionable habitat and biotic assessment protocol is still being used. The HSBP currently being used in assessing stream health was never meant to be used within the regulatory context as it is not scientifically rigorous and was rejected by the Water Quality Standards Technical Advisory Group (WQS-TAG) which assisted DOH-EPO in developing the most recent proposed revisions to the State WQS and by the Director of Health Dr. Bruce Anderson after thorough review and consultation with reknown field biologists.*

*The state has limited resources and should use them to list truly impaired waterbodies and develop realistic TMDLs so that we can have a real impact on restoring truly polluted waters.”*

**Response:** Please see response to Comment 1.6.

We would appreciate learning what the commenter thinks would be a scientifically reliable bioassessment protocol and would like to talk to any proponents of such a protocol and any scientists who criticize the HSBP.

**Commenter 3:** Sandra Lee Kunimoto, Chairperson, Board of Agriculture, State of Hawaii, letter dated March 30, 2004.

**Comment 3.1** *“The proposed update of the impaired water bodies list is part of the Hawaii Department of Health’s (DOH) efforts to address the federal Clean Water Act. Other relevant components associated with this document are our state's previously adopted Water Quality Standards, the Total Maximum Daily Loads (TMDLs) currently being developed and measurements for habitat and biotic stream integrity. The DOH’s goal is clean water and the restoration of the natural environment. While these are worthy goals, the methods chosen by the Department to achieve these goals must be accurate in their ability to assess impairment by human causes. If, for example, natural conditions violate the water quality standards or inadequate data collection indicates impairment, our State list will eventually include practically every water body in the islands. We are bewildered by the potential impact of this possibility and question whether other states are using similar standards and methodology to comply with the federal requirements.*

*The DOA continues to have strong concerns that the DOH has not adequately considered the impact that its actions will not result in undue or unbearable economic hardship for the agricultural sector and in fact, the entire state economy. The DOH has failed to adequately account for the effect on land use, economic development and impacts on private land use. DOH may well be creating restrictions on the use of private lands and the water necessary for agricultural production.”*

**Response:** Please see Responses 1.3 on ramifications, 2.3 on "natural" conditions, and 1.1 – 1.27 generally on method accuracy.

Regarding economic impacts, we would be pleased if the DOA could send us any written evaluations containing actual costs of TMDL implementation and how these

costs were analyzed. The DOH does not employ agricultural economists; DoA would be the best source of real-world information of this type for Hawaii.

**Comment 3.2** *“As we understand the federal requirements, one of the ramifications of listing water bodies is the development of TMDLs. Development and implementation of TMDLs will be costly for the state and the private sector, particularly the agriculture industry. Unknown and unproven methods of identifying sources of “non-point source pollution” may result in pollution budgets that are unfeasible and unfair. We are also extremely concerned with the possibility of severe limitations on or the elimination of the use of agricultural water from surface streams. If farmers are forced to give up stream sources of water they may need to develop irrigation wells, which will tax aquifers and domestic sources. This may result in situations similar to many western states in which water shortage conflicts occur as surface stream flows are eliminated and water directly enters the ocean without the ability to recharge aquifers. This will defeat the purpose of the Water Quality Standards to preserve water quality because the resulting actions will recycle the aquifers with pumped irrigation water and limiting mixing of fresh water into the aquifer. The DOA made these points previously on August 9, 1999 in reference to the Proposed Amendments to Hawaii Administrative Rules Title 11, Chapter 54, Water Quality Standards, Docket No. R-8-99 and they are still relevant.”*

**Response:** We acknowledge your concern about the possible implications of listing waters. Please see our Response 3.1.

Whether TMDL implementation will be "costly" is an issue for which we welcome more information as noted in our Response 3.1. We do note that many sources of federal and private funding are available to offset restoration costs.

All our methods are reviewed by EPA before they are accepted for use in the Listing and TMDL processes. If the reference to "unknown and unproven methods" is to the HSBP, then please see our Responses 1.6 & 2.4. If the reference is to other matters, we need more specifics, and we would appreciate receiving a citation, a description of the analysis leading to the criticism, or the name of the scientist criticizing our methods.

We need more information before we can address your concern that "pollution budgets that are unfeasible and unfair" may result from our listing decisions.

We acknowledge that the Commission on Water Resource Management (COWRM) has authority over water allocations and that the DOH's jurisdiction is over water quality. Questions on water quantity should be addressed to Ms. Yvonne Izu, Deputy Director of the COWRM. We have worked with Ms. Izu's predecessor, Ernest Lau, and the COWRM staff and will be working with Ms. Izu on ways to make better decisions on stream management policies and plans than in the past. We will forward your comments on water quantity to Ms. Izu for her direct reply.

**Comment 3.3** *“The DOA is concerned that the DOH’s responses as presented in the document entitled, Public Comment Response Summary, November 2002, are dismissive of concerns and suggestions raised. These include the following points:*

1. *How does the DOH account for the fact that Hawaii’s environment and soils are naturally erosion prone?*
2. *The DOH claims that high costs prohibit efforts to utilize science based, long-term data sampling.*
3. *Is it fair to penalize businesses, communities and neighborhoods – let alone the visitor sector with the stigma and economic consequences of classifying a stream as impaired when it may be naturally high in turbidity and soil content?*

**Response:** For Point 1, see responses 1.9 and 2.3. EPA expects water quality standards to be based on conditions in relatively unpolluted environments. Water Quality Standards are revised every three years and changes can be proposed at any time; We expect to review the standards again as soon as the current amendments are acted upon by the Governor..

Background loads are estimated on a watershed-by-watershed basis for the TMDL program, and upper watersheds are examined to determine the extent of repairable damage caused by feral animals such as deer, goats and pigs, as well as by invasive plants and insects.

As to point 2, the DOH monitoring program does have limited financial resources but the project is science-based. With over 350 perennial streams and hundreds of miles of near shore marine areas in the state, a long-term, all-inclusive sampling plan for each waterbody is difficult and expensive, so DOH monitors *selectively*.

As to point 3, we share your concern that waters not be listed for truly natural conditions. By applying the appropriate monitoring strategy and decision making criteria, we hope to gain a better understanding of the true nature of our waters.

We observe that many people expect or are generally pleased that there are government programs addressing the quality of State surface waters, and appreciate that the State is taking responsibility for the condition of its surface waters. Rather than feel stigmatized, we would prefer that people collaborate with us to help remedy environmental degradation. Please refer to our previous response to Comment 1.3 and the discussion of soil and turbidity in response to Comment 1.18.

**Comment 3.4** *“These listings have the potential for tremendous impact on the agricultural sector and our communities in general; it is ill advised for the DOH to focus solely on accomplishing federal listing requirements. This process is only one step within a bigger picture that should accurately pinpoint those waterbodies which are indeed impaired and which can be realistically restored. The DOH as a state agency has a responsibility to be realistic and balanced in its approach to this matter and we welcome the opportunity to work with the agency toward a more scientifically defensible process.”*

**Response:** DOH must follow federal listing requirements, or EPA will perform the listing for the State. The Clean Water Act requirements are quite explicit in determining how states classify their surface waters within the confines of the 303(d) listing process. The 303(d) List is required of all states. Both DOH and EPA have had experience with attempts to minimize the list, but a recent (1998) attempt resulted in a lawsuit filed by interested parties, (i.e., *Hiihawai Stream Restoration Coalition et al. v. Whitman*), which resulted in the List being remanded to EPA for redrafting, which forced EPA and DOH to change their listing practices. Each two-year cycle of the list should result in a clearer understanding of the true nature of Hawaii's surface waters. The current list reflects a more scientifically based criteria, evaluated along several lines of evidence.

We are concerned that your department has such a high level of anxiety about our process and its perceived implications. We are also very interested in the basis for your concerns and in meeting any scientists who propose an alternative to our present practice. We should meet to discuss the matter further.

We note that we have started working with COWRM on ways that DOH can support development of in-stream flow standards, which should go a long way towards setting priorities for surface waters uses under our system of designated uses (DOH) and COWRM's system of beneficial uses (State Water Code).

DOH would welcome any assistance from agencies with constructive criticism directed towards improving our process.

**Commenter 4:** Ernest Y. W. Lau, Deputy Director, Commission on Water Resource Management, DLNR, letter dated March 29, 2004.

**Comment 4.1** *"Aamakao Stream: The Commission will be conducting field monitoring of Aamakao Stream in 2004 for streamflow and aquatic life. Any information your office can provide us regarding water quality of Aamakao Stream will be appreciated. Water quality data is one of many parameters considered by the Commission when setting instream flow standards."*

**Response:** We will provide CWRM with the data used to support the Aamakao Stream listing decision. Additional information about this stream is available through Mr. Edward Chen of the Clean Water Branch. We would like to discuss possibilities for coordinated streamflow, water quality, and aquatic life monitoring in this or any stream with CWRM and DAR staff.

**Comment 4.2** *"Hakalau Stream and Honolii Stream: Your office listed these streams for nutrient and turbidity pollutants. The Commission is considering listing streams for their high natural quality based partly on information in the Hawaii Stream Assessment. Hakalau and Honolii Streams, which appear on you Table 5 List of Impaired Waters,*

*were considered for the Commission's high natural quality listing. We would like to look further into this seemingly contradictory views of Hakalau and Honolii Streams."*

**Response:** Our views of Hakalau stream and Honolii stream may not be contradictory depending upon how we define "high natural quality" and what stream segments are evaluated. In any event, we anticipate looking further into this situation through our participation in CWRM's Stream Protection and Management Working Group.

**Comment 4.3** *"In addition to the above comments, we believe the TMDL program and our stream protection and management program's efforts to set instream flow standards should be better coordinated. We recommend scheduling a meeting at an early date, to review each program's goals, objectives, methods and priorities. We further recommend that all new TMDL stream listings be held in abeyance until we have had a chance to meet and review both programs. Hopefully, such a meeting will improve both the TMDL and instream flow programs which in turn become an important component of the Hawaii Water Quality Plan pursuant to Hawaii Revised Statutes §174C-68."*

**Response:** We agree that our TMDL program and efforts to set instream flow standards should be better coordinated, and we thank you for the ongoing DLNR participation in our Interagency TMDL Working Group. Because of EPA legal deadlines, we cannot hold any of the currently proposed listings in abeyance without specific, criteria-based reasons for doing so (e.g. analytical errors for a particular stream). However, we will contact you to schedule, as recommended, a program review meeting focused on identifying and integrating TMDLs, instream flow, and Water Quality Plan goals, objectives, methods, and priorities.

**Commenter 5:** Thomas Young, Member, Hamakua Soil and Water Conservation District, email dated March 29, 2004.

**Comment 5.1** *"Sampling methods call for two stations to be set up on each separate stream. One station is to be upper on the stream corridor the other is to be lower closer to the outlet. (11-54(1)(a) for streams, there must be at least two stations per stream (upper and lower) and at least five (5) samples per station. The data of this report only cites one station per stream."*

**Response:** We sample at least two stations per stream, but we did not always have 10 samples per station in late 2003. The data from multiple sites for each stream are combined to produce a geomean for the stream, then that geomean is compared against the appropriate wet or dry season standard. The listing criteria applied are found in Appendix A.

**Comment 5.2** *"Alenaio Stream is not a blue line stream, a small portion of the stream flows for less than a mile this stream is a good candidate for a Use Attainability Analysis U.A.A. for two reasons lack of flow, ephemeral stream and a stream that may be polluted by background or naturally occurring pollutants. Waieka Stream is not a blue line"*

*stream, no portion of the stream flows except during times of heavy rainfall or storms. This stream is a good candidate for a Use Attainability Analysis U.A.A. for two reasons lack of flow, ephemeral stream and a stream that may be polluted by background or naturally occurring pollutants.”*

**Response:** "Blue line" streams correspond to perennial stream channels on USGS topographic maps, but HAR 11-54-5.2 (b) makes no distinction between perennial and intermittent flow in the standards for inland waters. DOH applies sampling data as they become available. However, there are seeps and springs in these systems where perennial flow is consistent and where the lower reaches of both streams appear to be polluted by sources such as urban storm runoff generated in the Hilo area.

Please see below for discussion of UAA current philosophy regarding this process.

**Comment 5.3** *“Future Monitoring is mentioned along with the use of a U.A.A. It is incumbent upon the State of Hawaii Department of Health to follow the Federal Water Quality Regulation Part 131 Sec 131.10 (g) States may remove a designated use which is not an existing use, as defined in sec. 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because: (1) Naturally occurring pollutant concentrations prevent the attainment of the use; or (2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharge without violating State water conservation requirements to enable uses to be met.”*

**Response:** The UAA process is a possible tool for additional assessment of many streams in the state. Much research needs to go into the determination of a UAA. DOH must define the designated uses and existing uses, and gather all pertinent data regarding each stream for a considerable amount of time before public-noticing any decision. DOH is in the process of identifying potential streams for application of this procedure, however, when speaking of natural loading, it is critical to be careful not to assume that the current state of erosion, or flooding is ‘natural.’ Feral animals, exotic species of plants and animals may contribute considerable amounts of pollutants to a waterbody. The TMDL process will identify the background levels of pollutants, and also identify any inputs to that system by anthropogenic sources. Additionally, drought conditions have been prevalent for many years, and it is difficult to predict which streams are truly intermittent, or temporarily devoid of water due to drought or water withdrawals, either surface or from the aquifer. DOH will continue to develop appropriate Clean Water Act protocols to protect and/or help restore the streams to a more natural function as funding permits.

**Comment 5.4** *“The Commission on Water Resource Management staff submittal Feb 18 2004 is recommending that a status of Pristine stream be placed on four streams on the*

*North Hilo and Hamakua coast. These streams for the following reasons should be subject to a Use Attainability Analysis.*

- 1. Kaawalii stream is an ephemeral stream and is subject to seasonal flooding along with naturally occurring pollutant loads that would not meet water quality standards unless the natural loading were subtracted.*
- 2. Kaiwilahilahi stream is only perennial in the lower reaches, it becomes ephemeral at the lower reaches of the conservation district at the falls. The stream is severely polluted part of the year in the urban district starting at five (5) dollar pond below Papaaloa subdivision due to infiltration of sewage from the cesspools. THE HSDOH in years past have posted the lower waterway.*
- 3. Hakalau stream is subject to seasonal flooding along with naturally occurring pollutant loads that would not meet water quality standards unless the natural loading were subtracted.*
- 4. Honolii Stream is subject to seasonal flooding along with naturally occurring pollutant loads that would not meet water quality standards unless the natural loading were subtracted.”*

**Response:** Please see response to Comment 4.2 and 5.3. Thank you for your input and we will work toward gathering more data regarding these streams.

**Commenter 6:** Dr. Carl Berg, Jr., Chief Scientist, Hanalei Watershed Hui, in an email dated March

**Comment 6.1** *“Nutrient data (from Hanalei) also exceeds standards.”*

**Response:** Data need to be evaluated based on the criteria in Appendix A. DOH will evaluate nutrient data and include as necessary in the next list.

**Comment 6.2** *“I believe that these stream estuaries should be listed for both turbidity and enterococci based on numeric assessment. All three should be given a high priority since the values far exceed standards, since the estuaries are used as recreational waters by children, and since they empty onto the beaches of Hanalei Bay.”*

**Response:** Enterococcus is not now in the Water Quality Standard for inland waters and estuaries at the current date of publication of the List, therefore no listing is proposed for the estuaries based on these bacteria.

**Comment 6.3** *“ The few values we have for Waipa stream up above the estuary also far exceed standards for enterococcus, supporting the listing of Waipa estuary.”*

**Response:** Enterococcus is not now the standard for inland waters, therefore no listing is proposed for Waipa Stream based on bacteria.

**Comment 6.4** *“Hanalei Bay Pavilion station and Hanalei Bay Pinetrees station should also be listed for turbidity. Are these estuaries, embayments, or coastal? I believe that I*

*sent to you the turbidity data collected by our staff as part of the EPA grant. I will send it again."*

**Response:** Pavilion and Pinetrees can be listed for turbidity utilizing the embayment criteria. DOH will evaluate the data and include as necessary. DOH thanks you for your cooperation.

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